The EPA's
Environmental
Technology
Verification Program

ETV

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APCT Verification Center

The APCT Verification Center is part of the U.S. Environmental Protection Agency's (EPA's) ETV Program and is operated as a partnership between RTI and EPA. The Center verifies the environmental performance of commercial-ready air pollution control technologies. Verification provides potential purchasers and permitters with an independent and credible assessment of what they are buying and permitting. Verification tests use approved protocols, and verified performance is reported in verification statements signed by EPA. RTI contracts with Midwest Research Institute, ETS, Inc., and Southwest Research Institute to perform verification tests. ✣

Today's News

Mobile Diesel Engines

Emissions of PM, NOx, and VOCs from mobile diesel engines are a serious national problem, and numerous innovative technologies are available to control them. The APCT Verification Center has published a generic verification protocol (GVP) to test and verify the emissions reductions achieved by diesel exhaust catalysts, particulate filters, and engine modifications (http://etv.rti.org/apct/pdf/GVP_MS_DevRev07.pdf). Applications are being accepted from vendors for verification testing. The Center is also working with two technical panels to extend the GVP to include fuels, fuel additives, and lubricants and selective catalytic reduction (SCR). These GVPs will be completed in early summer of 2002.

Dust Suppressants and Soil Stabilizers

The APCT Verification Center and the Environmental Technology Evaluation Center (EvTEC), two of EPA's ETV Programs, are working together to verify the performance and baseline environmental impacts of dust suppression and soil stabilization products on unpaved roads using field and laboratory tests. The GVP is at http://etv.rti.org/apct/documents.cfm. The primary performance measures for the dust suppression products are percent control of dust that contributes to air pollution, and roadway performance of the products with respect to maintenance. The primary performance measure for the soil stabilization products is stability of soil on the roadway. Trial tests were conducted on seven products over a 3-month period at Fort Leonard Wood, MO, in the fall of 2001. Full verification tests (1 year) will start in May 2002 at Maricopa County, AZ, and Fort Leonard Wood, MO.

Biofiltration (Bioreaction) Control Technologies for Volatile Organic Compound (VOC) Emissions

There is growing interest in the U.S. for the use of biofiltration (or bioreaction) to control VOC emissions. Biofiltration uses microorganisms to break down organic compounds primarily into carbon dioxide and water. The APCT Verification Center is preparing a GVP for closed biofiltration systems to measure their VOC removal efficiency. The associated environmental impacts and resources associated with operating the technology will also be verified. Applications from vendors are now being accepted, and testing should begin in the summer of 2002.

Baghouse Filtration Products

Verification testing of 14 fabric products has been completed. Verification statements and reports are available at http://etv.rti.org/apct/documents.cfm for 13 of the products, with one statement and report in progress. All of the products show low outlet concentrations of PM2.5 (particulate matter 2.5 mm or smaller), the major objective of the verification tests. Also reported are pressure drop, number of cleaning cycles, and mass of test dust gained by the fabrics while being tested. The 6-hour tests are conducted at a filtration velocity of 2.0 m/min (formerly 3.0 m/min) preceded by a 10,000-cycle conditioning period and a 30-cycle recovery period. Rigorous quality assurance procedures are followed to ensure that reported results are accurate within stated limits.

NOx Control Technologies

A verification test of the Xonon™ Cool Combustion system, owned by Catalytica Energy Systems, Inc. of Mountain View, California, resulted in a mean outlet NOx concentration of 1.3 ppmvd at 15% O_2. Xonon™ limits NOx produced within the combustion chamber of a gas turbine. The verification report and statement is available at http://etv.rti.org/apct/documents.cfm. The APCT Verification Center is soliciting applications from vendors of other NOx technologies. The GVP can be found at http://etv.rti.org/apct/pdf/NOxVerifProtocol.pdf. ✣

Benefits of Verification

The APCT Verification Center benefits technology developers and vendors, users and purchasers, permitters, and the public. Because the technologies are verified by RTI, which is an independent, objective third party, everyone is assured that the findings are based on high-quality, credible, consistent, useful, and widely accepted performance data and procedures. Technology verification provides many benefits:

For developers and vendors

- Gives sound science-based marketing tool
- Reduces costs for advertising and marketing
- Expands markets and business opportunities
- Enhances regulatory acceptance
- Accelerates new or improved technologies into the marketplace
- Adds confidence for investors and lenders

For users and purchasers

- Allows easier evaluation of competing technologies
- Facilitates permitting process
- Reduces noncompliance risks

For permitters

- Makes job easier
- Adds confidence in control systems performance. ✣

The ETV Program

The Environmental Technology Verification (ETV) program, established by the U.S. Environmental Protection Agency (EPA), is designed to accelerate the development and commercialization of new or improved environmental technologies through third-party verification and reporting of performance. The goal of the ETV is to verify the performance characteristics of commercial-ready environmental technologies through the evaluation of objective and quality-assured data so that potential purchasers and permitters are provided with an independent and credible assessment of the technology that they are buying or permitting.

To learn more about ETV, go to: **http://www.epa.gov/etv**.

Engineering and Technology at RTI

The Engineering and Technology Division (ETD) at RTI provides research studies and technical services in process research, aerosol science and exposure, air pollution control technology, contamination control, environmental microbiology, and indoor air quality. Fully equipped laboratories and testing facilities with extensive instrumentation are available.

ETD is part of the Engineering Group at RTI, which has more than 350 researchers and staff dedicated to research and technical services.

RTI represents environmental science and technology at its best. Since its founding in 1958, RTI has built a solid reputation in almost every aspect of environmental protection.

RTI is an independent research enterprise that serves government and industry clients worldwide. RTI's 180-acre campus is located in the center of North Carolina's Research Triangle Park. With a staff of over 1,900 and 725,000 square feet of office and laboratory facilities, RTI offers a highly diverse set of technical capabilities.

RTI scientists and engineers conduct research and provide technical services in environmental protection, advanced technologies, public policy, international development, and health and medicine.

For more information about RTI or the APCT Verification Center

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